

## CLAIMS

### WHAT IS CLAIMED IS:

1. A child car seat assembly, comprising:  
a child car seat, said child car seat being attachable in a seat of a vehicle, said child  
5 car seat having a safety belt means for securing a child;  
a seat cushion with pressure switch means formed in the seating area of said child  
car seat; said pressure switch means being enabled when a child occupies said  
child car seat; and  
signal wires from said pressure switch means routed out of said seat cushion, said  
10 signal wires having a mating connector for connecting to a vehicle occupant  
detection and notification system for use in notifying a person that a child is  
strapped in said child car seat in said vehicle.
2. The assembly of claim 1, wherein said seat cushion is a separate removable cushion  
15 with built-in pressure switch means for retrofitting in an existing child car seat,  
said separate removable seat cushion being securely affixed to said child seat  
by attaching means.
3. The assembly of claim 1 further comprising a controller unit for controlling said  
vehicle occupant detection and notification system, said controller unit being  
installed on said child car seat by attaching means.
- 20 4. A vehicle occupant detection and notification system, comprising:  
a child car seat, said child car seat being attachable in a seat of a vehicle, said child  
car seat having a safety belt means for securing a child, said child car seat  
further having a built-in seat cushion pressure switch means, said pressure  
switch means being enabled when a child occupies said child car seat;  
25 a controller unit for controlling said system, said controller unit being mountable in  
said vehicle, said controller unit determining when a child is in said child car  
seat and a passenger door of said vehicle is open;  
a door switch being mountable on the driver's door of said vehicle, a signal wire  
from said door switch being routable to an input of said controller unit for  
30 indicating when said door is open;

an internal vehicle alarm being mountable in said vehicle for reminding responsible occupants of said vehicle, when a child is in said child car seat and a door of said vehicle is open, that a child is in said child car seat, said internal vehicle alarm being enabled by an output signal from said controller unit; and

5           a wiring harness for routing signal wires from said seat cushion pressure switch means of said child car seat, said door switch, and vehicle's power and chassis ground to inputs of said controller unit, said wiring harness further routing an output signal wire from said controller unit to said internal vehicle alarm, said wiring harness wires having a mating connector means for coupling to said seat cushion pressure switch means and said controller unit.

10

5.          The system of claim 4, wherein the door switches from all passenger doors of said vehicle are routed to separate inputs of said controller unit, said controller unit enabling said internal vehicle alarm when a child is in said car seat and any of said passenger doors are opened.

15

6.          The system of claim 4 further comprising an inside temperature sensor, the output signal from said inside temperature sensor being coupled to an additional input of said controller unit for determining when the temperature inside said vehicle falls above or below a predetermined temperature range.

7.          The system of claim 6 further comprising a high-volume audible external vehicle alarm, said external vehicle alarm being enabled by said controller unit when a child is in said car seat and the inside temperature of said vehicle is outside of said predetermined temperate range, said external alarm being reset when said child is removed from said child car seat or manually.

20

8.          The system of claim 4, wherein said internal vehicle alarm is a beeper or voice command type alarm.

25

9.          The system of claim 4, wherein said controller unit is an integral part of said child car seat.

10.         The system of claim 4, wherein a separate seat cushion with built-in pressure switch is retrofitted to an existing child car seat.

11. The system of claim 4, wherein said wiring harness supplies signals from a plurality of child car seats.
12. A vehicle with a child detection and notification system for use in combination with a child car seat, comprising:
  - 5 a vehicle;
  - a child car seat being attached in a seat of said vehicle, said child car seat having a safety belt means for securing a child, said child car seat further having a built-in seat cushion with pressure switch means, said pressure switch means being enabled when a child occupies said child car seat;
  - 10 a controller unit for controlling said system, said controller unit being mounted in said vehicle, said controller unit determining when a child is in said child car seat and a passenger door of said vehicle is open;
  - signal wires from at least the vehicle's two front passenger door switches routed to inputs of said controller unit for indicating when one or more doors are open;
  - 15 an internal vehicle alarm mounted in said vehicle for reminding responsible occupants of said vehicle, when a child is in said child car seat and a door of said vehicle is open, that a child is in said child car seat, said internal vehicle alarm being enabled by an output signal from said controller unit; and
  - 20 a wiring harness routing signal wires from said seat cushion pressure switch means of said child car seat, said door switches, and vehicle's power and chassis ground to inputs of said controller unit, said wiring harness further routing an output signal wire from said controller unit to said internal vehicle alarm, said wiring harness wires having a mating connector means for coupling to said controller unit and to said seat cushion pressure switch means of one or more said child car seats.
- 25
13. The vehicle of claim 12, wherein controller unit functions are provided by controller(s) of said vehicle's built-in electrical system.
14. The vehicle of claim 13, wherein said cable harness only routes a signal from said seat cushion with pressure switch means to said vehicle's controller unit, all

other system functions being integrated into said vehicle's existing electronic components.

15. The vehicle of claim 12 further comprising an inside temperature sensor, the output signal from said inside temperature sensor being coupled to an additional input of said controller unit for determining when the temperature inside said vehicle falls above or below a predetermined temperature range.

5

16. The vehicle of claim 15 further comprising a high-volume audible external vehicle alarm, said external vehicle alarm being enabled by said controller unit when a child is in said car seat and the inside temperature of said vehicle is outside of said predetermined temperate range, said external alarm being reset when said child is removed from said child car seat or manually.

10

17. The vehicle of claim 16, wherein said external vehicle alarm is said vehicle's existing security alarm.

18. The vehicle of claim 12, wherein said internal vehicle alarm is said vehicle's beeper normally used to indicate that the lights are on or that the keys are in the ignition.

15

19. The vehicle of claim 12, wherein a separate seat cushion with pressure switch means is retrofitted into an existing child car seat.

20. The vehicle of claim 12, wherein said controller unit is an integral part of said child car seat.

20